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US 10/561,836 (DI20100115)
Reply to the 09/25/09 Office Action

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DATA DISTRIBUTING-MACHINE WITH CONTROLLED ATMOSPHERE

Clear document

FIELD OF THE INVENTION The field of the invention is that of the distribution of the digital data, and more particularly that of the hiring of these data.

FORMER STATE OF THE ART One knows that there are optical discs of which matter is subjected to change of colouring under the influence of oxygen and/or the light, making them unsuitable with the reading at the end of a definite time, and/or a definite number of readings (apart from an accidental exposure to the light); they are sensitive optical discs.

These sensitive optical discs are designed for the hiring.

They are sold in airtight or opaque envelopes which it is necessary to open to read the disc.

The higher price of the sensitive optical discs and the price of their envelopes involves a higher cost of the stock.

GOAL OF THE INVENTION The purpose of the invention is to promote the hiring of these sensitive optical discs by removing the cost due to the stocking of the written discs of the former art.

SUMMARY OF THE INVENTION

This goal is reached by integrating into an automatic autonomous distributing-machine of former art (applications Fr 0307104 and Fr 93 13015) an enclosure tight with gases and/or opaque, free from oxygen, in which there are a stock of virgin sensitive optical discs, a means to write these virgin sensitive discs, and a means to package the written sensitive discs in an individual enclosure tight and/or opaque, free from oxygen.

An autonomous data distributing-machine includes at least:

- a means for mass memory,
- a means to read this mass memory,
- a means to choose data from this mass memory,
- a means to write on separate supports the chosen data,
- a reserve of separate supports,
- a means for availability of the separate support containing the data chosen,
- a separate data support being a portable autonomous means having at least a means of information storage, and being able to be put in relation with the means to write the data chosen, for example an optical disc.

SHORT DESCRIPTION OF THE FIGURES

Figure 1 - Schematic overall picture of the tight enclosure 1 and of its annexes 12 and 13

Figure 2 - Schematic sight of a container 4b fixed at the frame of the door of the airlock of entrance 2

Items list

- 1 - Tight enclosure free from oxygen
- 2 - Airlock of entrance for the virgin sensitive discs 3
- 2a - External door of the airlock of entrance 2
- 2b - Interior door of the airlock of entrance 2
- 3 - Virgin sensitive optical discs
- 3a - Written sensitive optical discs
- 4 - Individual packing of the virgin sensitive optical discs 3
- 4a - Individual packing of the written sensitive optical discs 3a
- 4b - Container multipack of the virgin sensitive optical discs 3
- 4c - Lid of the container 4b
- 5 - Airlock of exit of the written sensitive optical discs 3a

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- 5a - External door of the airlock of exit 5
- 5b - Internal door of the airlock of exit 5
- 6 - Means for writing on the virgin sensitive optical discs 3
- 7 - Means for extraction of the virgin sensitive optical discs 3 from their packing 4
- 5 8 - Tool used by the means of extraction 7
- 9 - Means for intermediate stocking of the virgin sensitive optical discs 3 got out from their packing 4
- 10 10 - Means for handling of the virgin sensitive optical discs 3 and written sensitive optical discs 3a
- 11 11 - Means for individual packaging of the written sensitive optical discs 3a
- 12 - Means for extraction of air
- 13 - Stock of inert gas
- 14 - Means for the airlock 2 allowing the opening of the lid 4c of the containers 4b
- 15 15 - Safety device of the airlock 2
- 16 - Derivative circuit for analysis and purification of the atmosphere of the enclosure 1
- 17 - Stock of tight packings 4a for packaging of written sensitive optical discs 3a

DETAILED DESCRIPTION.

20 **First preferred realization (figure 1).** An enclosure 1, airtight and free from oxygen, has at least:

- an airlock of entrance 2, having a outside door 2a and an interior door 2b, by which it is possible to introduce virgin sensitive optical discs 3 into their airtight packing 4, individual or collective, free from oxygen;
- an airlock of exit 5, having an outside door 5a and an interior door 5b, by which will come out the written sensitive discs 3a, in their individual airtight packing 4a free from oxygen;
- a means for writing 6 on the virgin sensitive discs 3 of the selected data;
- a means for extraction 7 of the virgin discs 3 of their packing seals 4, collective or individual, for example airtight gloves 7a accessible from the outside of enclosure 1 and making it possible to handle simple tools 8 located in the enclosure, for example a cutter;
- 30 - a means for storage 9 of the virgin sensitive discs 3 got out of their packings 4;
- a means for handling 10, for example a carriage provided with devices of gripping and being able to move from airlock of entry 2 to the airlock of exit 5, to introduce the virgin sensitive discs 3 extracts of their packing into the means for writing 6, and to come out the written sensitive discs 3a from it;
- 35 - a means for individual packaging 11 locking up the written sensitive discs 3a in an individual airtight packing 4a free from oxygen;
- a stock 17 of tight individual packing 4a, or materials and means to constitute such tight individual packing 4a, possibly in a airlock 17;
- a means 12 for extraction of the air introduced into the airlock of entry 2 and exit 5, for example a vacuum pump;
- 40 - an inert gas stock 13.

Second preferred realization - This realization differs from the preceding realization in what:

- 45 - the airlock of entry 2 has a form and dimensions such as airtight packing 4 can be contained there exactly.
- the airtight packing 4 consists of a container 4b rigid or semi-rigid having a lid 4c,
- the residual air between this airlock 2 and the container 4b is driven out by a neutral gas circulation, possibly associated with an extraction of the air by means 12,
- 50 - a means 14 for the airlock 2 opens and shuts the lid 4c to make it possible by means for handling 10 to use the virgin sensitive discs 3.
- of tight packings 4a for the packaging of the written sensitive discs 3a

55 **Third preferred realization** - This realization differs from the preceding achievements in what:

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the shape and dimensions of the airlock of entrance 2 are such as the lid part of the container 4b adapts very exactly and in a tight way with the interior door frame 2b of this airlock of entrance 2,

5 the air contained between the lid 4c of the container 4b and the interior door 2b of the airlock 2 is driven out by a neutral gas circulation, possibly associated with an extraction of the air by means 12,

the connection between airlock 2 and the container 4b is ensured by a device 15 prohibiting the removal of the container if the interior door 2b and the lid 4c of the container are not closed,

10 the means 14 for the airlock 2 opens and shuts the lid 4c of the container 4b to allow by means for handling 10 to use the virgin discs,

the device 15 forbids the opening of the interior door 2b of the airlock 2 if the sweeping by the neutral gas were not done.

15 **Fourth preferred realization (figure 2)** - This realization differs from the preceding achievements in what:

the shape and dimensions of the airlock of entrance 2 are such as the lid part of the container 4b adapts very exactly and in a tight way with the frame of the external door of this airlock of entrance 2;

20 the air contained in airlock 2, between the lid 4c of the container 4b and the interior door 2b of airlock 2 is expelled by a neutral gas circulation, possibly associated with an extraction of the air by means 12;

the connection between airlock 2 and the container 4b is ensured by a device 15 prohibiting the removal of the container 4b if the interior door 2b of airlock 2 and the lid 4c of container 4 are not closed;

25 the means 14 for the airlock 2 opens and shuts the lid 4c of the container 4b.

Fifth preferred realization (figure 1) - This realization differs from the preceding achievements in what:

30 there exists in the tight enclosure 1, or out side of this one, in a derived circuit 16 recycling the atmosphere of this enclosure 1, a means to fix oxygen, for example an oxydable simple element;

there exists in the tight enclosure 1, or in the derived circuit 16, an oxygen detector possibly connected to a warning system.

35 **Sixth preferred realization (figure 1)** - This realization differs from the preceding achievements in what:

the means for writing 6 on the independent sensitive supports virgin 3 is in an airlock 6a allowing its

40 extraction without introduction of air into the tight enclosure 1.

Seventh preferred realization - This realization differs from the preceding achievements in what:

45 when the virgin sensitive discs 3 are in individual packing 4 tight and free from oxygen, this packing is opened and re-used like packing of the written sensitive discs 3a, for example, packing 4 of discs 3 has a diameter largely higher than that of the discs 3 contents and their sealing is assured close to their periphery;

50 under these conditions means 7 for extraction of discs 3 of their packing eliminates the periphery ensuring the sealing by leaving around disc 3 a sufficient space to ensure a new sealing;

the remaining elements of packing 4 are transferred towards means 11 for packaging of the written sensitive discs 3a which places a sensitive disc written between the said remaining elements and ensures the sealing of the new packing by a welding of these elements to their periphery.

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